2018-00443 - [Campagne Post-doctorat 2018/CRI PARIS] - Team Mamba

Contract type: Public service fixed-term contract
Level of qualifications required: PhD or equivalent
Function: Post-Doctoral Research Visit

Context

Mamba aims at developing mathematical models, simulations and numerical algorithms to solve questions from life sciences involving dynamics of phenomena encountered in biological systems such as protein intra-cellular spatio-temporal dynamics, cell motion, early embryonic development, multicellular growth, wound healing and liver regeneration, cancer evolution, healthy and tumour growth control by pharmaceuticals, protein polymerization occurring in neurodegenerative disorders, etc.

Data and image analysis, statistical, ODEs, PDEs, SDEs and agent-based approaches are used either individually or in combination, with a strong focus on PDE analysis and agent-based approaches.

The dynamics of complex physical or biophysical phenomena involves many agents, e.g. proteins or cells - which can be seen as active agents. Mathematically, they can be represented either explicitly as individuals with their dynamics modelled e.g. through branching trees and piecewise deterministic Markov processes (PDMP), or stochastic differential equations, or under certain conditions be grouped or locally averaged, in which case their dynamics is mimicked by Ordinary or Partial Differential Equations (ODEs/PDEs).

Assignment

The recruited person will be in connection with Marie Doumic and Philippe Robert

Responsibilities:
The person recruited is responsible for the development of mathematical models.

Main activities

- propose and analyze mathematical models for several biological phenomena in a PDE framework or in a probabilistic setting.

Skills

Technical skills and level required: PhD

Benefits package

- Subsidised catering service
- Partially-reimbursed public transport

Remuneration

Additional information
• Location: Paris 12ème
• Gross Salary per month: 2 653€ brut/mensuel

Security and defense procedure:

This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST).

Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

General Information

• Theme/Domain: Modeling and Control for Life Sciences
  Scientific computing (BAP E)
• Town/city: Paris
• Inria Center: CRI de Paris
• Starting date: 10/1/18
• Duration of contract: 1 year, 4 months
• Deadline to apply: 3/23/18

Contacts

• Inria Team: MAMBA
• Recruiter: Robert Philippe / philippe.robert@inria.fr

The keys to success

There you can provide a "broad outline" of the collaborator you are looking for what you consider to be necessary and sufficient, and which may combine:

• area of excellence: mathematical modeling

This section enables the more formal list of skills to be completed and 'lightened' (reduced):

• "Essential qualities in order to fulfil this assignment are feeling at ease in an environment of scientific dynamics and wanting to learn and listen."

Conditions for application

Defence Security:

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Recruitment Policy:

As part of its diversity policy, all Inria positions are accessible to people with disabilities.

Warning: you must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is not guaranteed.